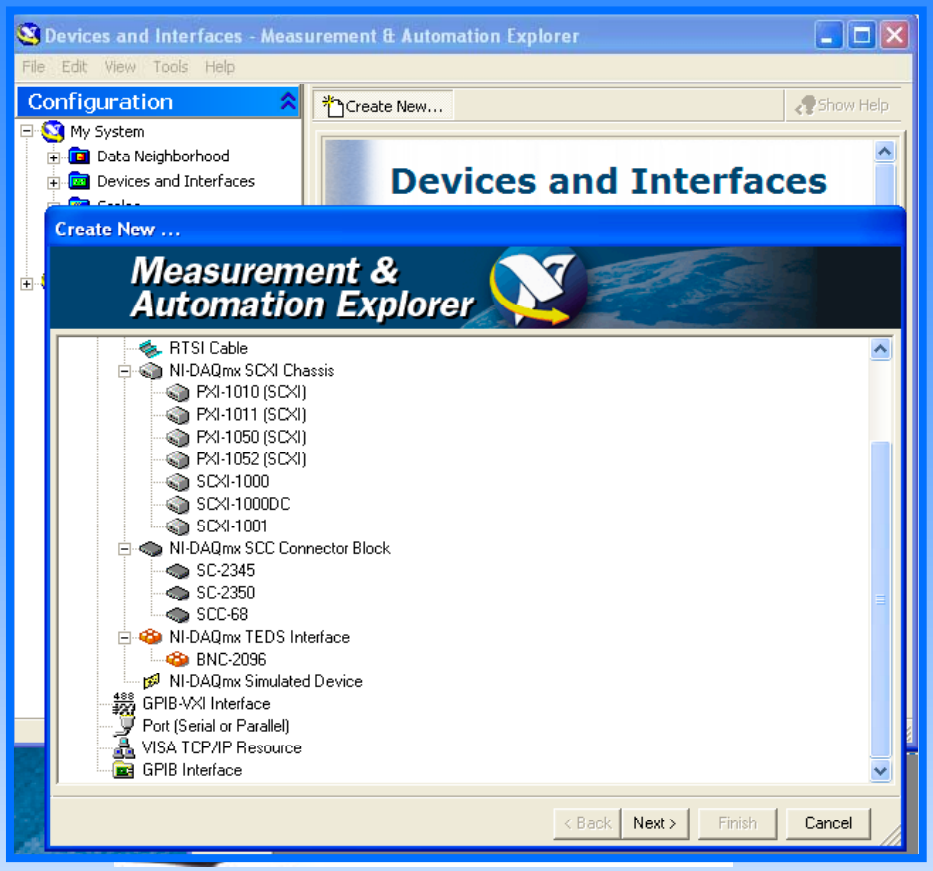
USING AN IVI DRIVER FOR A PICKERING LXI BASED SWITCH CARD IN MAX



Issue A, Nov 2007

© COPYRIGHT (2007) PICKERING INTERFACES. ALL RIGHTS RESERVED.

No part of this publication may be reproduced, transmitted, transcribed, translated or stored in any form, or by any means without the written permission of Pickering Interfaces.

Technical details contained within this publication are subject to change without notice.

Using an IVI driver for a Pickering LXI based switch card in MAX

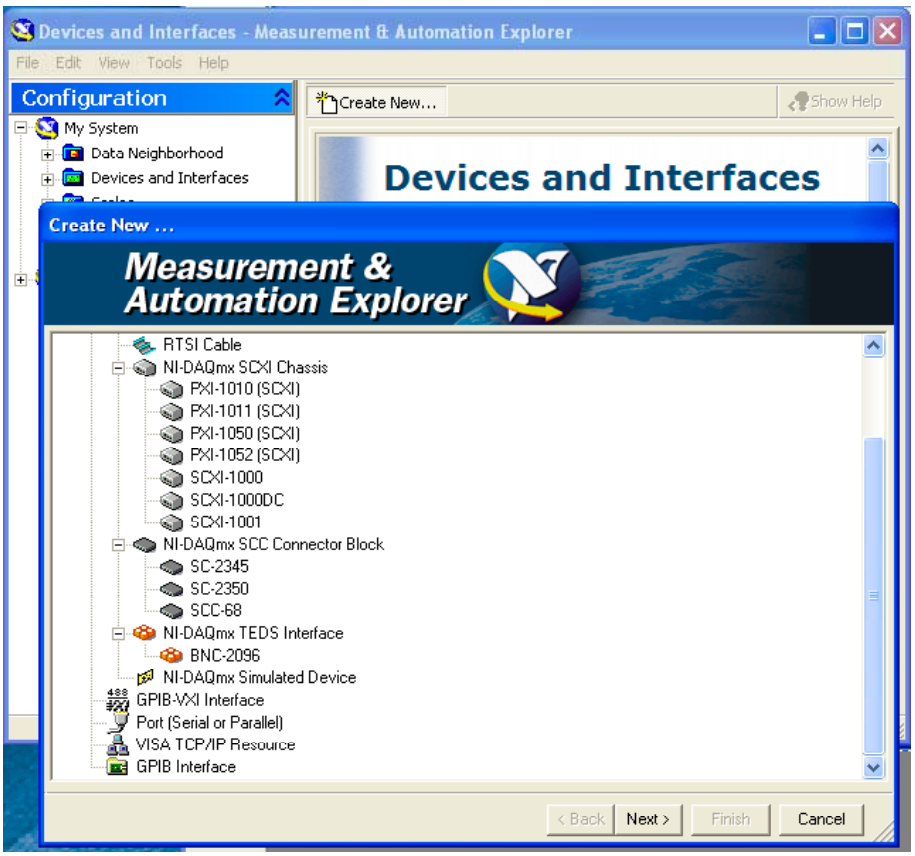
This document describes how to configure National Instruments Measurement and Automation Explorer (MAX) to operate with a Pickering LXI chassis and the IVI driver. This is needed to allow easy operation of cards in the LXI chassis with NI Switch Executive.

NOTE: The Pickering IVI driver, pi40iv must be installed prior to configuring the card in MAX. The pi40iv driver in turn requires the prior installation of NI-VISA and the NI IVI Compliance Package.

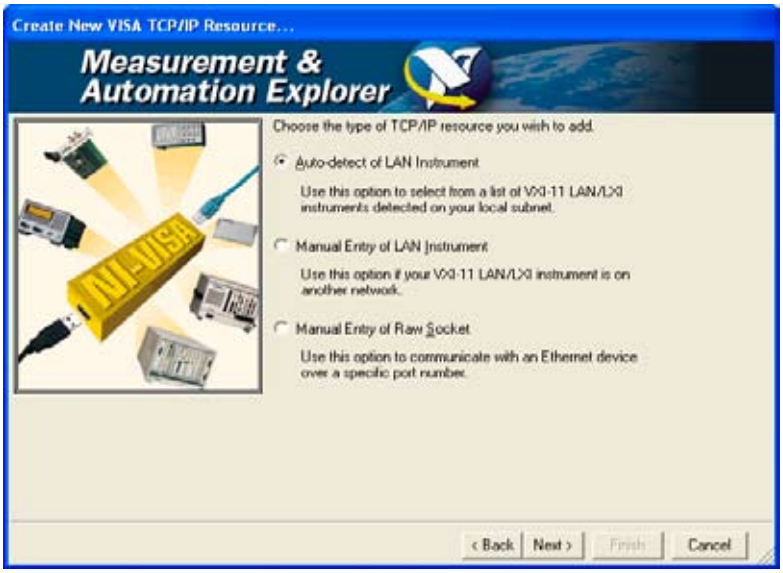
Discovery

Before setting up your LXI device it is necessary to know the IP address of the device, since the default is for the LXI device to obtain its IP address using DHCP, you need a tool to assist in discovering that address. Various tools are available for this process, including one in MAX which is described below.

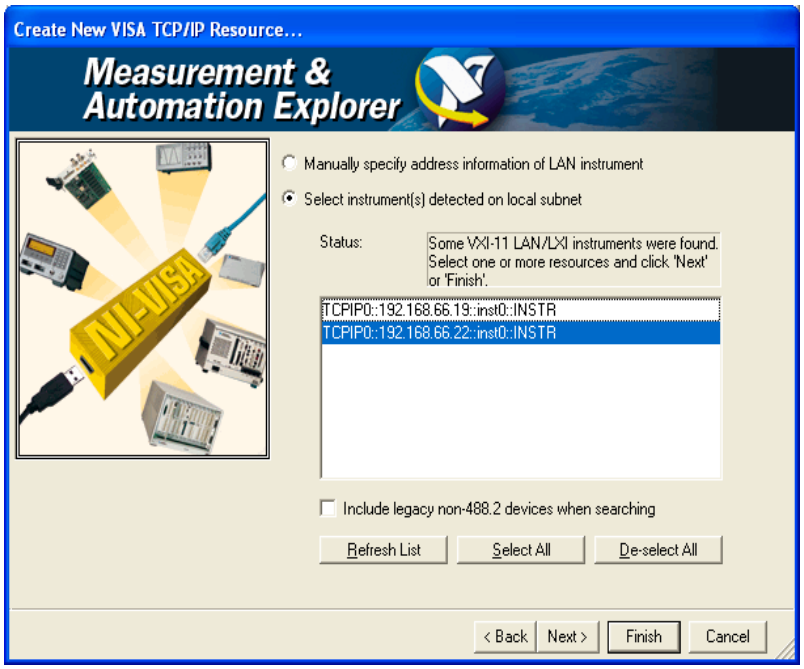
From MAX, select ‘Devices and Interfaces’ then click on ‘Create New...’, select ‘VISA TCP/IP Resource’ and click on ‘Next’.



Select ‘Auto-detect of LAN Instrument’ and then click on ‘Next’. This should locate all LXI devices on your ethernet sub-net.



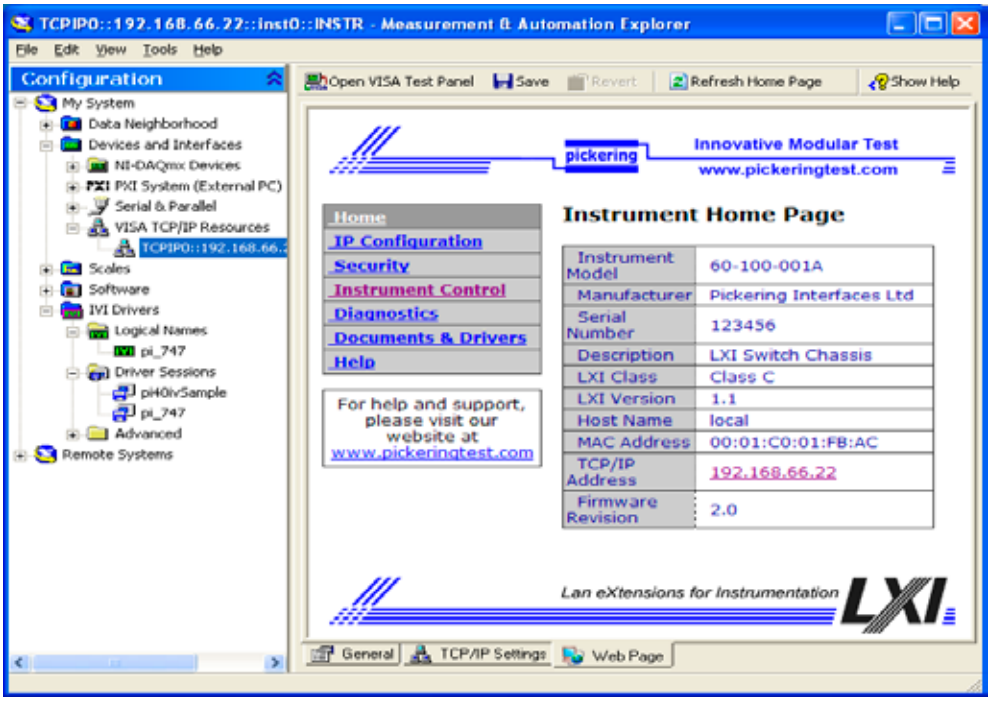
Select the Pickering LXI chassis containing the switch to be controlled then click on ‘Finish’



If you are not sure which device is the required Pickering chassis, then select all and create entries for each device.

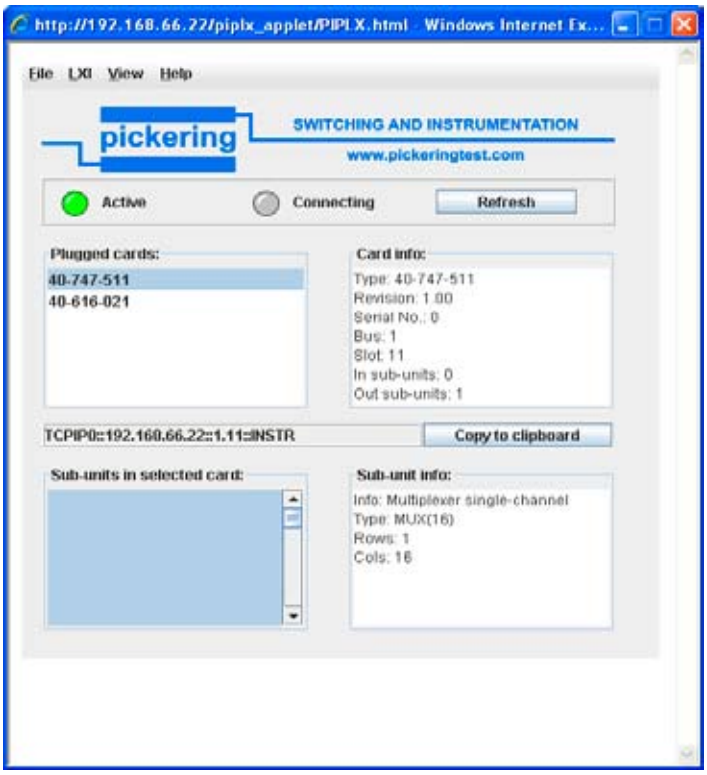
Getting the Switch Card Information

For the selected LXI device, go to its Web Page tab, this will open the home page of the LXI device.



Click on the ‘Instrument Control’ link then click on the ‘Click here to launch the Java control applet’, this should bring up the base control panel for the unit which will display all cards present.

Select the card you wish to be control and copy the VISA resource string to the clipboard. Also make a note of the full model number of the required card, in this case let's use the 40-747-511.

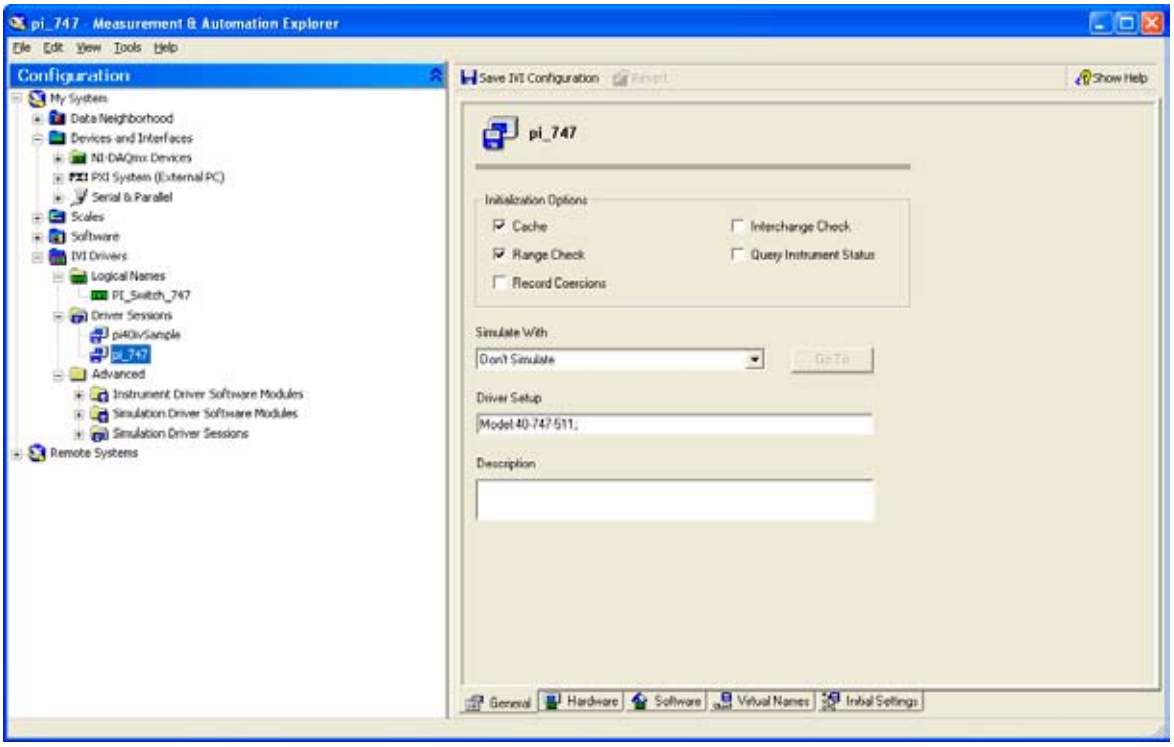


Close the applet and return to MAX.

Creating the Driver Session

Now right click on ‘Driver Sessions’ and create a new driver session, give it a suitable name, for example pi_747 as shown below.

Enter the model number in the ‘Driver Setup’ box as follows:



Make sure the model number in the driver setup field fully describes the card. In may cases this filed needs to be more complex than the 8 digit model number since there may be many variants of the card.

Refer to the file c:\VXIPNP\WinNT\pi40iv\pi40iv.ini and locate the full model number from that list.

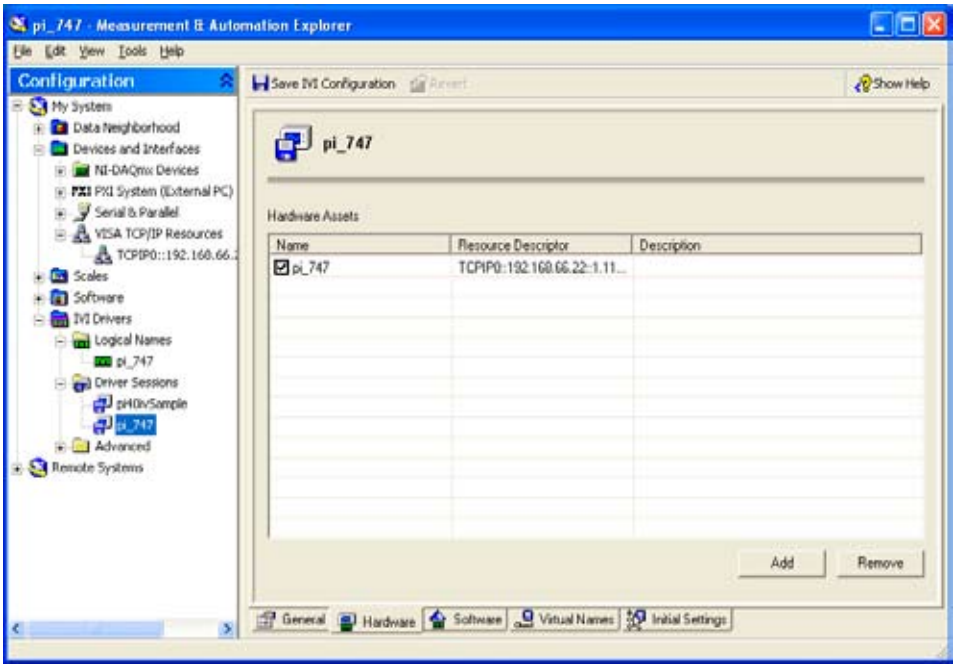
For example, the 40-562-021 has more than 30 variants. It is essential that the IVI driver finds the exact match of the entered model number in the ini file, for example:

Model:40-562-021-25x32;

Defines the 25x32 matrix verison of this card.

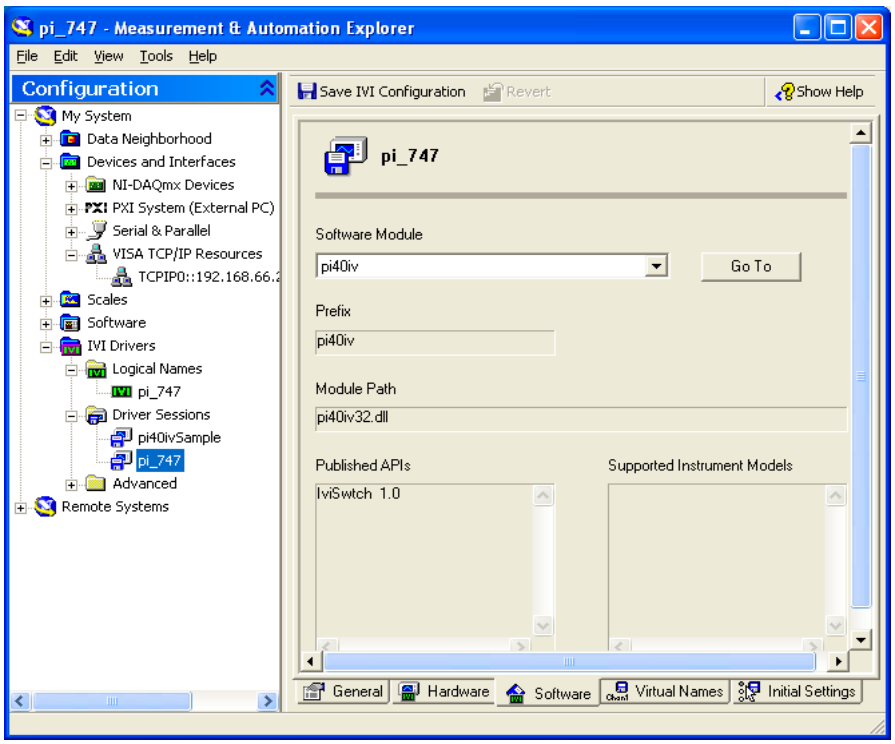
Identify the Hardware

Select the ‘Hardware’ tab, and then add a new hardware asset, give it a suitable name,then double click in the ‘Resource Descriptor’ column next to the new asset and paste in the resource string copied to clipboard earlier. The LAN device name field of the VISA resource string must contain a definition of the bus and device location of the card in the LXI chassis PXI backlane.



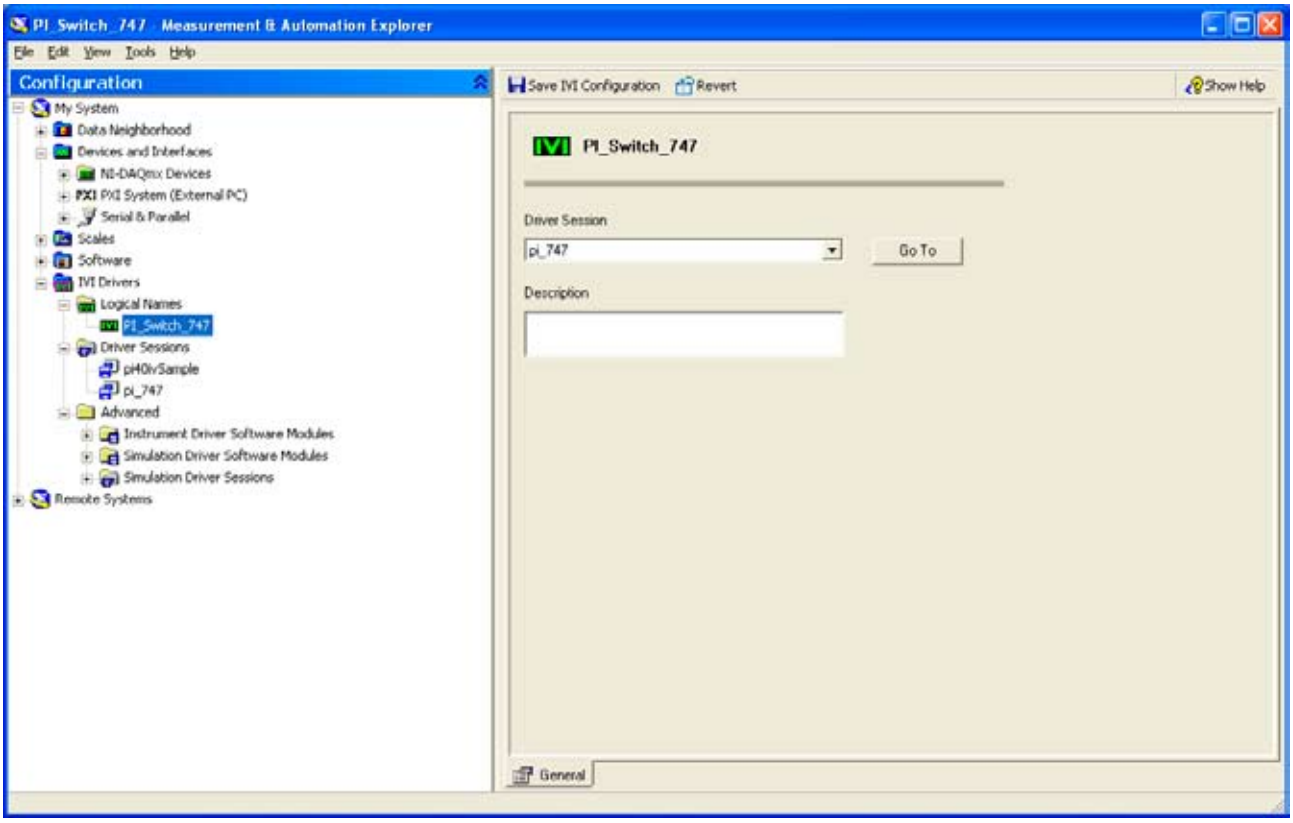
Select the Software Module

Go to the ‘Software’ tab and select pi40iv as the ‘Software Module’.



Creating the Logical Name

Right click on ‘Logical Names’ and create a new logical name for the switch card, then from the drop-down list, select the Driver Session created above.



Click on ‘Save IVI Configuration’, your driver is now ready to go!